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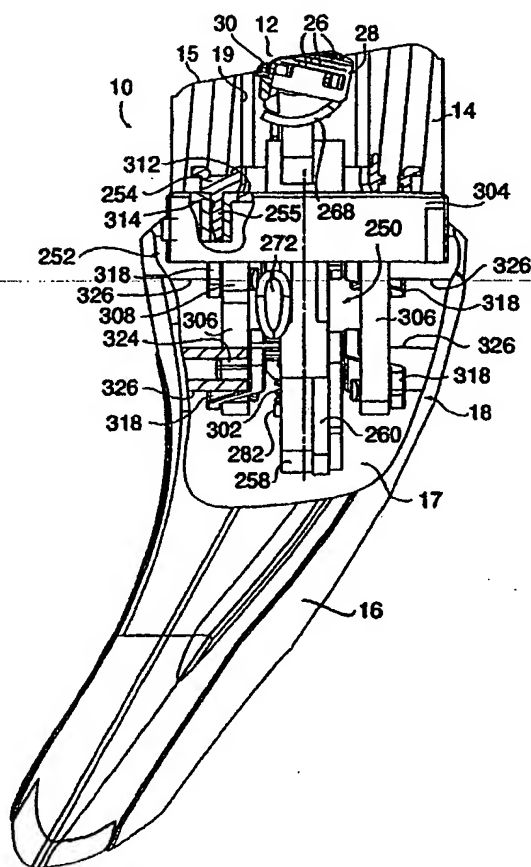
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[Continued on next page]

(54) Title: RAZOR ASSEMBLY



(57) Abstract: A razor assembly is provided that includes a razor cartridge (12) with one or more razor blades, a shaving aid body (14), a handle (16), and a linkage (18) pivotally connected to the handle. The linkage (18) is connected to the razor cartridge (12) and the shaving aid body (14) in a manner such that the razor cartridge and the shaving aid body are moveable relative to the handle. Movement of one of the razor cartridge or the shaving aid body in a first direction causes the other of the razor cartridge or the shaving aid body to move in a second direction substantially opposite the first direction. As a result, the positions of the shaving aid body and the razor cartridge are continuously adjusted to maintain the contact surface (15) of the shaving aid body approximately co-planar with the cutting edges of the razor blades within the razor cartridge.

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# INTERNATIONAL SEARCH REPORT

International application No  
PCT/IB 03/01144

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B26B21/44 B26B21/40 B26B21/22

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B26B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 125 697 A (WARNER LAMBERT CO) 22 August 2001 (2001-08-22)  paragraph '0063! - paragraph '0078!; claim 54; figures 1-7C	1,10,66, 69,89, 97,98, 102,107
X	paragraph '0075!; figures 6A,6B	81,82,84
X	paragraphs '0075!, '0076!, '0085!-'0087!; figures 6A-C,11	85,88
A	US 4 562 644 A (HITCHENS PETER B) 7 January 1986 (1986-01-07) column 3, line 38 -column 6, line 53; figures 1-6	1,10,66, 81,89,97
X	FR 1 484 360 A (TIRARD ELISEE) 9 June 1967 (1967-06-09) the whole document	81,82
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
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Date of the actual completion of the international search

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## INTERNATIONAL SEARCH REPORT

International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 074 429 A (ROBERTS THOMAS G) 21 February 1978 (1978-02-21) column 5, line 11 - line 32; figures 2,3	81,82
A	US 4 944 090 A (SUMNALL STANLEY) 31 July 1990 (1990-07-31) the whole document	73,98
X	WO 98 36878 A (METCALF STEPHEN C ;WORRICK CHARLES B (US); GILLETTE CO (US); LEE A) 27 August 1998 (1998-08-27) page 5, line 17 - line 31; figures 1,2	79,80, 85,88
X	US 5 953 825 A (HAWES CHRISTOPHER MARTIN ET AL) 21 September 1999 (1999-09-21) column 3, line 12 -column 4, line 12; figures 2-4 column 1, line 66 -column 2, line 8	79,85
X	GB 2 116 470 A (GILLETTE CO) 28 September 1983 (1983-09-28) page 1, line 107 -page 2, line 40; figures 1-3	85-88
X A	US 4 970 784 A (ALTHAUS WOLFGANG ET AL) 20 November 1990 (1990-11-20) column 4, line 1 - line 64; figures 1-6 column 1, line 7 - line 12	85,86,88 87

# INTERNATIONAL SEARCH REPORT

Interr. application No.  
PCT/IB 03/01144

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-9, 10-65, 66-68, 69-72, 73-78, 81-84, 89-96, 97, 98-101, 102-106, 107-109

A razor assembly comprising a handle, a replacement cartridge, a shaving aid body, and a linkage either (i) connected, preferably pivotally, to the handle, the replacement cartridge, and the shaving aid body, or (ii) connected to the razor cartridge, the shaving aid body, and the housing in a manner such that the the razor certridge and the shaving aid body are moveable relative to the handle, and movement of one of the razor cartridge or the shaving aid body in a first direction causes the other of the razor cartridge or the shaving aid body to move in a second direction substantially opposite the first direction.

Claims 73 to 78, 81 to 84, 98 to 101 and 107 to 109 are not directed to the subject-matter as indicated above but to the following:

- 1.1. Claims: 73-78

A replacement cartridge, comprising a razor cartridge, a holder attached thereto, a shaving aid body, and a base attached thereto, the base comprising a center aperture wherein the holder is slidably received.

- 1.2. Claims: 81-84

A base for a shaving aid portion of a razor assembly, comprising means for attaching the base to the shaving aid body, a center aperture, and means for attaching the base to the razor assembly.

- 1.3. Claims: 98-101

A razor assembly, comprising a handle, a replacement cartridge including a razor cartridge slidably received within a center aperture of a shaving aid body.

2. Claims: 79-80

A replacement cartridge, comprising a razor cartridge and a holder attached thereto, the holder being operable to permit slidable translation of the razor cartridge and attached holder relative to the handle.

3. Claims: 85-88

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

A holder for a razor cartridge portion of a razor assembly, comprising means for attaching the holder and the razor cartridge together; and means for attaching the holder to a linkage portion of the razor assembly.

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB 03/01144

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1125697	A	22-08-2001	US 2003014866 A1 23-01-2003
			AU 1369901 A 23-08-2001
			CA 2330374 A1 16-08-2001
			DE 60100512 D1 04-09-2003
			EP 1125697 A1 22-08-2001
			JP 2001286686 A 16-10-2001
			US 2003121154 A1 03-07-2003
			US 2003167644 A1 11-09-2003
US 4562644	A	07-01-1986	NONE
FR 1484360	A	09-06-1967	NONE
US 4074429	A	21-02-1978	NONE
US 4944090	A	31-07-1990	NONE
WO 9836878	A	27-08-1998	US 5784790 A 28-07-1998
			AU 750437 B2 18-07-2002
			AU 6656498 A 09-09-1998
			BR 9807414 A 21-03-2000
			CN 1254305 T 24-05-2000
			DE 69805292 D1 13-06-2002
			DE 69805292 T2 05-12-2002
			DE 69817230 D1 18-09-2003
			EP 1182015 A1 27-02-2002
			EP 0969951 A2 12-01-2000
			ES 2176978 T3 01-12-2002
			HK 1025283 A1 04-10-2002
			JP 2001513006 T 28-08-2001
			TR 9902027 T2 21-08-2000
			TW 378174 B 01-01-2000
			US 5890296 A 06-04-1999
			WO 9836878 A2 27-08-1998
			ZA 9801292 A 17-11-1999
US 5953825	A	21-09-1999	AT 202307 T 15-07-2001
			AU 722992 B2 17-08-2000
			AU 1394797 A 11-08-1997
			BR 9707293 A 20-07-1999
			CA 2242529 A1 24-07-1997
			CN 1212647 A ,B 31-03-1999
			CZ 9802248 A3 17-03-1999
			DE 69705326 D1 26-07-2001
			DE 69705326 T2 29-11-2001
			EP 0960004 A1 01-12-1999
			ES 2158482 T3 01-09-2001
			WO 9726119 A1 24-07-1997
			JP 2000503222 T 21-03-2000
			PL 327852 A1 04-01-1999
			RU 2171174 C2 27-07-2001
GB 2116470	A	28-09-1983	NONE
US 4970784	A	20-11-1990	DE 8811355 U1 20-10-1988
			AU 620642 B2 20-02-1992
			AU 4116789 A 15-03-1990
			BR 8904487 A 24-04-1990



### Information on patent family members

PCT/IB 03/01144

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4970784	A	EP 0357821 A1	14-03-1990
		HK 123994 A	18-11-1994
		JP 2107290 A	19-04-1990

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